Note: This is a courtesy copy of the proposal. The official version will be published in the New Jersey Register on January 17, 2006. Should there be any discrepancies between this courtesy copy and the official version, the official version will govern.

NEW JERSEY BOARD OF PUBLIC UTILITIES

Proposed New Rule: Gas Meter Protection

N.J.A.C. 14:6-7

Proposed January 17, 2006

PUBLIC UTILITIES
BOARD OF PUBLIC UTILITIES
Gas meter protection

Proposed New Rule: N.J.A.C. 14:6-7

Authorized By:	Board of Public Utilities, Jeanne M. Fox, President, and Frederick F. Butler, Connie O. Hughes, and Jack Alter, Commissioners
Authority:	N.J.S.A. 48:2-13 and 48:10-5
Calendar Reference:	See Summary below for an explanation of exception to calendar requirement.
BPU Docket Number:	GX05080741
Proposal Number:	PRN

Note: This is a courtesy copy of the proposal. The official version will be published in the New Jersey Register on January 17, 2006. Should there be any discrepancies between this courtesy copy and the official version, the official version will govern.

Submit comments by March 18, 2006 to:

Kristi Izzo, Board Secretary
Board of Public Utilities
Two Gateway Center
Newark, New Jersey 07102

The agency proposal follows:

Summary

High pressure natural gas meter sets, including regulators and associated piping, may present a significant hazard if damaged by vehicular impact because the subsequent release of a large volume of gas may lead to ignition with resulting explosion, death, injury or property damage. Appropriate protection of these facilities by the installation of an excess flow valve (EFV) or some physical barrier can mitigate or prevent damage.

The Board of Public Utilities would like to recognize the gas utility companies in New Jersey for their voluntary installation of EFVs in new and renewed service lines where feasible. EFVs serve to protect against the potential hazards of ruptures due to damage from vehicular impacts as well as damage to service lines from excavation activity.

The Board is proposing new rules to codify these voluntary actions and also is setting forth additional requirements, and in certain locations, to require the installation of physical barriers when the conditions are such that the installation of an EFV is not feasible or where the physical barriers would be preferred, in an effort to minimize the potential for hazard due to vehicular damage to high pressure natural gas meter sets.

The Board recognizes that damage to gas meter sets and the results of that damage cannot be protected against under all circumstances. One of the goals of this rule is to set forth a regulatory environment that will create a best practice for physically protecting gas meter sets. The Bureau of Pipeline Safety will work with the gas public utilities to achieve this goal. The Bureau of Pipeline Safety will have the ability to perform inspections of the physical protections installed on each gas meter set to determine if those physical protections are adequate. Additionally, the Board will be the ultimate authority on whether or not such physical protections are adequate.

Following is a section by section summary of the proposed rule.

N.J.A.C. 14:6-7.1 sets forth definitions used in this subchapter.

N.J.A.C. 14:6-7.2 sets forth the applicability and purpose of this subchapter.

N.J.A.C. 14:6-7.2(a) explains that the purpose of the subchapter is to enhance the safety of people and property when a high pressure natural gas meter set or natural gas service line might be subject to damage. When these lines or meter sets are damaged, natural gas may leak at a significant rate. The potential for explosion and/or fire places people and property at risk. This subchapter proposes ways to minimize the likelihood of such hazardous conditions.

N.J.A.C. 14:6-7.2(b) explains that this rule applies to new and renewed or replaced high pressure service lines and new and existing high pressure gas meter sets.

N.J.A.C. 14:6-7.2(c) notes that this rule is intended to act in concurrence with the Department of Community Affairs rule regarding the protection of gas meter sets.

N.J.A.C. 14:6-7.2(d) notes that this rule is intended to act in concurrence with the United States Department of Transportation regulations at 49 C.F.R. 192.353.

N.J.A.C. 14:6-7.3 sets forth requirements applicable during the construction of a new residential service line.

N.J.A.C. 14:6-7.3(a) explains that this subchapter only applies to residential gas meter sets and service lines installed after the enactment of this rule. Gas meter sets and service lines installed before enactment of this rule will be governed by N.J.A.C. 14:6-7.7 set forth below.

N.J.A.C. 14:6-7.3(b) explains that the gas public utility must comply with this section before gas is supplied to the customer.

N.J.A.C. 14:6-7.3(c) explains that an EFV shall be installed on all new residential high pressure service lines when the operating pressure and flow conditions allow for its installation.

N.J.A.C. 14:6-7.3(d) explains that an EFV shall be located as close to the main connection as possible. Locating the EFV close to the main provides the greatest benefit as it serves to protect the meter set and essentially the entire service line. This section also incorporates by reference the Federal requirements for the installation of an EFV. The Federal Code sets forth detailed performance standards for EFVs that are installed on service lines.

N.J.A.C. 14:6-7.3(e) explains that the gas public utility shall ensure that any high pressure gas meter set connected to a new residential service line when an EFV is not feasible and the high pressure gas meter set is located within three feet or less of a vehicular zone, is protected. This section is limited to locations within three feet or less of a vehicular zone which is a radial area extending out three feet from the meter set piping. Such locations can be reasonably expected to be more vulnerable to vehicular impacts, and although they were not as common locations in the past, they are becoming increasingly more common for the location of meter sets in new residential

construction. This is due to customer piping connection restraints inherent with condominium and townhouse type units, which now constitute a more significant part of new home construction.

N.J.A.C. 14:6-7.3(f) provides that physical barriers shall be installed to protect the residential gas meter set when the gas meter set meets the requirements of section (e) above. The physical barrier requirements are codified in N.J.A.C. 14:6-7.8. These physical barriers will provide protection to the gas meter set itself thereby reducing the likelihood of a gas meter set rupture due to vehicular impact.

N.J.A.C. 14:6-7.3(g) provides a third option when both an EFV and physical barriers are not practical. Physical barriers may not be practical if the installation of such barriers would limit the ability of a vehicle to maneuver in a vehicular area, such as when the gas meter set is located in a small or narrow driveway. There may be other instances where such physical barriers are not practical. In such instances, the entire gas meter set must be relocated to a safer area where the likelihood of vehicular impact and other damage is reduced.

N.J.A.C. 14:6-7.4 sets forth requirements applicable during the construction of a non-residential service line.

N.J.A.C. 14:6-7.4(a) explains that this subchapter only applies to non-residential gas meter sets and service lines installed after the enactment of this rule. Gas meter sets and service lines installed before enactment of this rule will be governed by N.J.A.C. 14:6-7.7 set forth below.

N.J.A.C. 14:6-7.4(b) explains that the gas public utility must comply with this section before gas is supplied to the customer

N.J.A.C. 14:6-7.4(c) and N.J.A.C. 14:6-7.4(d) together, explain that all new non-residential high pressure gas meter sets that are within three feet of a vehicular zone must be protected by physical barriers as specified in N.J.A.C. 14:6-7.8.

N.J.A.C. 14:6-7.4(e) explains that the non-residential gas meter sets must be relocated if they cannot be protected by physical barriers and are within three feet of a vehicular area.

N.J.A.C. 14:6-7.5 sets forth the requirements applicable during the renewal of a residential gas service line.

N.J.A.C. 14:6-7.5(a) explains that this subchapter only applies to residential gas meter sets and service lines replaced after the enactment of this rule.

N.J.A.C. 14:6-7.5(b) explains that the gas public utility must comply with this section.

N.J.A.C. 14:6-7.5(c) explains that emergency work may be exempted from the EFV installation requirement. An emergency repair situation may not afford the gas service companies with the same opportunity to install an EFV.

N.J.A.C. 14:6-7.5(d) explains that an EFV shall be installed on all renewed residential service lines when the pressure and flow conditions of the natural gas service allow for its installation. This section also cross references N.J.A.C. 14:6-7.3(d) which explains that the EFV shall be located as close to the service main as possible for reasons explained above.

N.J.A.C. 14:6-7.5(e) explains that whenever an EFV is not feasible because the pressure and flow within the gas service line and the gas meter set is located within three feet of an area intended or reasonably expected to include vehicular traffic, then the gas public utility is required to install physical protections as specified in N.J.A.C. 14:6-7.8.

N.J.A.C. 14:6-7.6 sets forth the requirements applicable during the renewal of a non-residential gas service line.

N.J.A.C. 14:6-7.6(a) explains that this subchapter only applies to non-residential gas meter sets and service lines replaced after the enactment of this rule.

N.J.A.C. 14:6-7.6(b) explains that the gas public utility must comply with this section.

N.J.A.C. 14:6-7.6(c) explains that emergency work is specifically exempted from the protection requirement. An emergency repair situation may not afford the gas service companies with the same opportunity to install such physical protections.

N.J.A.C. 14:6-7.6(d) explains that the gas public utility is required to install physical protections as specified in N.J.A.C. 14:6-7.8 whenever the renewed non-residential gas meter set is located three feet or less from a vehicle zone.

N.J.A.C. 14:6-7.7 sets forth the requirements for the protection of existing high pressure gas meter sets.

N.J.A.C. 14:6-7.7(a) explains that this section governs residential and non-residential high pressure meter sets installed before the effective date of this rule.

N.J.A.C. 14:6-7.7(b) requires the gas utility companies to survey their existing high pressure meter sets within six months of enactment of the rule.

N.J.A.C. 14:6-7.7(c) requires the gas public utility to file a plan with the Bureau of Pipeline Safety for protecting the gas meter sets listed in the survey above within nine months after the effective date of this rule.

N.J.A.C. 14:6-7.8 sets forth the requirements for physically protecting the high pressure gas meter sets. Physical protection for residential and non-residential gas meters must be designed, installed and maintained to provide an adequate level of protection from vehicular damage that may be reasonably anticipated. Factors that must be taken into account when determining the appropriate physical protection are enumerated in N.J.A.C. 14:6-7.8(b). This section also specifies that other relevant factors should be considered.

N.J.A.C. 14:6-7.9 sets forth requirements for inspections and record keeping. This section requires each gas utility company to perform visual inspections at least once every three years on all gas meter sets with physical protection. Damaged gas meter sets and missing or damaged physical protection must be recorded and reported to the Bureau of Pipeline Safety. Finally, the records obtained under this subchapter must be complete and accurate and maintained for the life of the gas service.

As the Board has provided a 60-day comment period on these new rules, they are exempt from the rulemaking calendar requirements set forth at N.J.A.C. 1:30-3.1 and 3.2, pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

The proposed amendments would have a positive social impact by providing protection to people and property. The delivery and use of natural gas is safe under normal operating conditions. However, natural gas can present a potential hazard when it is escaping uncontrolled as a result of failed gas piping due to damages from excavation or vehicle impact. Under such conditions, natural gas can accumulate, and when an ignition source is present, an explosion and/or fire can result, causing harm to people and damage to property. An excess flow valve (EFV) is a safety device that quickly activates to shut off or limit the gas flow in service lines when they are significantly damaged. The installation of an EFV in residential lines has the potential to minimize hazard to life and property, as well as make the area safe for first responders. Therefore, mandating the installation of an EFV in new or renewed service lines where the pressure and flow allow for such installation and operation will improve safety by minimizing risks associated with such damages.

Where the pressure and flow do not allow for the installation and operation of an EFV, other physical protection to the gas meter set provides a secondary option for protection. Additionally, because of the nature of the pressure and flow in non-residential service lines, physical protection is the preferred method for such service lines. Physical protection of new gas meter sets provides a positive safety benefit by limiting the damage to the gas meter set. This will decrease the chance of high pressure gas meter sets being damaged by vehicular impact (and in certain instances, excavation damages) and therefore, provide positive safety benefits.

The likelihood of vehicular damage to a gas meter set increases in areas close to intended or expected vehicular traffic. Where an EFV is installed, the potential hazards

from damage due to excavation or vehicular impacts are greatly minimized. Similarly, where physical protection is installed, the extent of damage imparted to the gas meter, and therefore, the potential hazards, from vehicular impact to the meter set decreases. The protection of gas meter sets within three feet or less of a vehicular zone by either an EFV or physical protection will provide the public with a positive safety benefit of protecting their natural gas meter set from the potential safety hazards due to vehicular damage.

Economic Impact

This rule is likely to have an economic affect on the gas utility companies and ratepayers of New Jersey. The incremental cost of an EFV is minimal and it is already the policy of the four gas companies to install EFVs whenever the operating pressures and flow of new or renewed installations of gas meter sets are feasible. Therefore, with respect to the installation of EFVs on new and renewed residential service lines, the cost impact is negligible. The installation of physical protections ranges in cost depending on the specific conditions of the site where the physical protections are required, and these costs will likely average several hundred dollars per installation. However, the actual cost of the work is unknown at this time because number of installations to be installed is unknown at this time. The administrative costs that are required to complete the gas meter survey and to file a plan with the Bureau of Pipeline safety are not known at this time; however, these costs are expected to be manageable and prudent considering the potential benefits of the survey and plan. The Board believes that the positive benefits of the protecting gas meter sets; specifically to limit the damage to life and property, outweigh the economic costs involved in protecting gas meter sets.

Federal Standards Analysis

Federal Regulations at 49 C.F.R. 192.383 require gas utility companies provide notice to their customers that they may request the installation of an EFV during any new or replacement service line installations. The Federal Regulations do not require that the gas utility company provide customers with an EFV unless the customer requests it and pays the cost. The four gas utility companies in New Jersey have voluntarily installed EFVs in new and renewed services where feasible. Proposed N.J.A.C. 14:6-7.1 et seq. would codify this and now require the gas utility companies in New Jersey to provide residential customers with EFVs whenever new construction or replacement of gas meter service lines is performed.

Federal Regulations at 49 C.F.R. 192.353 require gas utility companies to provide protection to a gas meter set wherever vehicular damage is anticipated. Proposed N.J.A.C. 14:6-7.1 et seq. requires the gas public utilities to survey and affirmatively assess each of their gas meter sets that are within three feet of a vehicular zone to determine whether vehicular damage is anticipated. However, proposed N.J.A.C. 14:6-7.1 et seq. does not require additional protection above and beyond the

federal requirements in this regard, but simply places the onus on the gas public utilities to make an assessment of whether vehicular damage is anticipated.

Proposed N.J.A.C. 14:6-7.1 et seq. is more stringent then the Federal Regulations in this area in that it requires the installation of an EFV for all new residential construction and requires physical protections for new non-residential gas meter sets within three feet of a vehicular zone. In recent years, Board staff has seen an increase in the type of new home construction with natural gas meter sets located in areas that are more vulnerable to vehicular damage. Additionally, the high population density of New Jersey brings a greater risk to personal and property damage in the case of a gas meter set or service line damage by excavation and vehicular impacts. Because of these increased risks within New Jersey, the Board believes this additional stringency is necessary. The benefits obtained by the requirements of this chapter, specifically the enhancement of safety to people and property associated with the decreased risk of an explosion and/or fire outweigh the costs required to meet the requirements under this chapter.

Jobs Impact

The Board does not anticipate that any jobs will be lost as a result of the proposed new rule. If the results of the surveys required by the gas utility companies show that many existing gas meter sets can benefit from enhanced protection, additional jobs may be created.

Agriculture Industry Impact

The Board does not expect that the proposed new rules will have any impact on the agriculture industry in New Jersey.

Regulatory Flexibility Statement

A small business, as defined in the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., is a business that has fewer than 100 employees. The proposed new rules will govern gas utility companies and will benefit the customers. Some small business customers will be able to benefit from this rule because they will obtain protection of the gas meter set. However, this rule will not impose any action upon small businesses because all of the gas utilities in New Jersey have at least 100 employees and therefore are not small businesses. Therefore, a Regulatory Flexibility analysis is not required because this proposal does not impose reporting, recordkeeping or other compliance requirements on small businesses.

Smart Growth Impact

The Board anticipates that the gas meter protection rule will have no impact on either the achievement of smart growth or the implementation of the State Development

and Redevelopment Plan. The State Plan is intended to "provide a coordinated, integrated and comprehensive plan for the growth, development, renewal and conservation of the State and its regions" and to "identify areas for growth, agriculture, open space conservation and other appropriate designations." N.J.S.A. 52:18A-199a. Smart growth is based on the concepts of focusing new growth into redevelopment of older urban and suburban areas, protecting existing open space, conserving natural resources, increasing transportation options and transit availability, reducing automobile traffic and dependency, stabilizing property taxes, and providing affordable housing." These rules apply uniformly statewide and the Board does not expect that they will affect the location of future development. Therefore, the proposed rules will not impact smart growth or the State Plan.

Full text of the proposed new rules follows:

Subchapter 7. Protecting high pressure natural gas meters from vehicular and other damage

N.J.A.C. 14:6-7.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions that apply to this subchapter can be found at N.J.A.C. 14:6-6.2, and in the rules for all utilities at N.J.A.C. 14:3-1.1.

"Excess flow valve" or "EFV" means a flow limiting safety device that is designed to shut off or significantly reduce the flow of natural gas when the flow rate of the gas exceeds a rated closure flow rate, such as that when a break in the service line occurs.

"Gas meter set" means a natural gas meter and any associated piping and appurtenances, including but not limited to a service regulator, valve, or other piping equipment located above ground and within the immediate vicinity of the gas meter.

“High pressure gas meter set” means a gas meter set in which the inlet pressure of the service line is greater than the pressure supplied to the customer.

"Vehicle zone" means a street, parking space, driveway, loading dock, garage entrance, or other area intended for vehicle traffic or where vehicle traffic occurs or is likely to occur.

N.J.A.C. 14:6-7.2 Applicability and purpose

(a) This subchapter sets forth requirements that will enhance the safety of people and property in proximity to a high pressure natural gas meter set or service line that is located where vehicular or other damage may be anticipated.

(b) This subchapter sets forth safety requirements for new and renewed or replaced gas service lines and new and existing high pressure natural gas meter sets.

(c) This subchapter is intended to operate in coordination with the Department of Community Affairs rules at N.J.A.C. 5:23-3.22, 6.6, and 6.7.

(d) This subchapter is intended to operate in coordination with 49 C.F.R. § 192.353.

N.J.A.C. 14:6-7.3 New residential construction

(a) This section governs when new single residential customer gas service lines are installed after {the effective date of this rule}.

(b) Each gas public utility shall ensure full compliance with this section before natural gas service is supplied to the customer.

(c) Wherever natural gas distribution operating conditions are such that the pressure and flow of natural gas allow for the proper operation of an excess flow valve (EFV), the gas public utility shall ensure that each new single residential customer service line is equipped with an EFV.

(d) The gas public utility shall ensure that:

1. All EFVs installed meet the requirements of 49 CFR §192.381, incorporated herein by reference; and
2. The EFV is located as close to the point where the gas service line connects to the gas main as feasible, given the conditions of the site and the characteristics of the equipment.

(e) The gas public utility shall ensure adequate protection is provided, in accordance with section (f) or (g) below, of any high pressure gas meter set that is:

1. Located three feet or less from a vehicle zone; and
2. Not protected by an EFV.

(f) The gas public utility shall ensure that any high pressure gas meter set that meets the qualifications under (e) above is protected by physical barriers as specified in N.J.A.C. 14:6-7.8.

(g) If the placement of the physical protections required under (f) above will intrude into the vehicle zone and/or impede movement of vehicles, or if the requirements at (f) above cannot practically be met for other reasons, the gas public utility shall ensure that the high pressure gas meter set is relocated so that it will be more than three feet from any vehicle zone.

N.J.A.C. 14:6-7.4 New non-residential construction

(a) This section governs when new single non-residential gas service lines are installed after {the effective date of this rule}.

(b) Each gas public utility shall ensure compliance with this section before natural gas service is supplied to the customer.

(c) The gas public utility shall ensure adequate protection is provided, in accordance with section (d) or (e) below of any high pressure gas meter set connected to a new non-residential service line that is located three feet or less from a vehicle zone.

(d) The gas public utility shall ensure that any high pressure gas meter set that meets the qualifications under (c) above is protected by physical barriers as specified in N.J.A.C. 14:6-7.8.

(e) If the placement of the physical protections required under (d) above will intrude into the vehicle zone and/or impede movement of vehicles, or if the requirements at (d) above cannot practically be met for other reasons, the gas public utility shall ensure that high pressure gas meter set is relocated so that it will be more than three feet from any vehicle zone.

N.J.A.C. 14:6-7.5 Renewed/replaced residential high pressure gas service lines

(a) This section governs when a residential high pressure gas service line serving a gas meter set is renewed or replaced and the main is exposed after {the effective date of this rule}.

(b) Each gas public utility shall ensure full compliance with this section.

(c) This section does not apply to certain emergency repairs wherein the installation of the EFV is not practical.

(d) Wherever natural gas distribution operating conditions are such that the pressure and flow of natural gas allow for the proper operation of an excess flow valve (EFV), a gas public utility shall ensure that each renewed or replaced single residential customer service line shall be installed with an EFV in accordance with the requirements for new residential construction at N.J.A.C. 14:6-7.3(d).

(e) The gas public utility shall enhance protection by installing physical barriers in accordance with N.J.A.C. 14:6-7.8 on the replaced or renewed high pressure residential gas meter sets, whenever the high pressure gas meter set is:

1. Located three feet or less from a vehicle zone; and
2. Not protected by an EFV.

N.J.A.C. 14:6-7.6 Renewed/replaced non-residential high pressure gas lines

(a) This section governs when a non-residential high pressure gas service line serving a gas meter set is renewed or replaced and the main is exposed after {the effective date of this rule}.

(b) Each gas public utility shall ensure full compliance with this section.

(c) This section does not apply to emergency repairs wherein the immediate installation of the physical protections is not practical.

(d) The gas public utility shall install physical barriers in accordance with N.J.A.C. 14:6-7.8 on the replaced or renewed non-residential high pressure gas meter set whenever the high pressure gas meter set is located three feet or less from a vehicle zone.

N.J.A.C. 14:6-7.7 Existing high pressure gas lines

(a) This section governs all existing residential and non-residential high pressure gas meter sets that were installed prior to {effective date of this rule}.

(b) Each gas public utility serving customers in New Jersey shall survey their high pressure gas meter sets to determine which meter sets are inadequately protected from anticipated vehicular damage within {six months of the effective date of this rule}.

(c) Each gas public utility shall file by {nine months after the effective date of this rule} a plan with the Bureau of Pipeline Safety for enhancing the protection of the gas meter sets listed in the survey required in this section. The plan shall include the address location of where enhancements are to be provided.

N.J.A.C. 14:6-7.8 Physical protection requirements

(a) To meet the requirements of this subchapter, a physical barrier shall provide an adequate level of protection from the type and intensity of vehicular damage that may be reasonably anticipated, based on the factors listed at (b) below.

(b) In determining the level of protection required, the gas public utility shall take all of the following factors into consideration:

1. The anticipated speed of nearby vehicle travel;
2. The proximity of the meter set to the vehicle zone;
3. The type of vehicles anticipated in the vehicle zone;
4. The physical attributes of the location of the meter set, such as, but not limited to, the width and length of vehicle zones;
5. The operating pressure of the gas service line that supplies the meter set;
6. The volume of anticipated traffic in the vehicle zone;
7. The configuration of the vehicle zone and the likely approach of vehicle movement in the zone;
8. The physical features already present that serve to provide adequate protection; and

9. Any other relevant factors.

N.J.A.C. 14:6-7.9 Inspections and record keeping

(a) Each gas public utility shall perform visual inspections of all gas meter sets equipped with the physical protections required under this subchapter at least once every three years.

(b) The gas public utility shall:

1. Identify and record any gas meter set that is inadequately protected and reasonably anticipated to be damaged by vehicular traffic;
2. Take steps to adequately protect the gas meter set identified in (b)(1) above and keep a record of those steps;
3. Identify and record any physical barriers that have been damaged or are missing;
4. Identify and record any high pressure gas meter sets that have been damaged by vehicular traffic; and
5. Annually notify the Bureau of Pipeline Safety of the location of any damaged high pressure gas meter sets or damaged/missing physical barriers; in a format to be specified by the Bureau of Pipeline Safety.

(c) The gas public utility shall retain complete and accurate records required by this subchapter for the life of the gas service covered by the record.